



**GUAM PUBLIC HEALTH LABORATORY GUIDELINES
SPECIMEN REQUIREMENTS FOR ADENOVIRUS
IN CLINICAL SAMPLES**

Methodology	<ol style="list-style-type: none"> 1. bioMérieux BioFire FilmArray Multiplex PCR System Respiratory Panel 2.1 (RP2.1) is a real-time RT-PCR test for the qualitative detection of nucleic acids from Adenovirus in respiratory specimens 2. bioMérieux BioFire FilmArray Multiplex PCR System Gastrointestinal (GI) Panel is a real-time RT-PCR test for the qualitative detection of nucleic acids from Adenovirus F 40/41 in stool specimens 3. U.S. Centers for Disease Control and Prevention Adenovirus Specimen Collection Instructions, Handling, and Shipping
Performed at:	
Guam Public Health Central Laboratory (GPHL)	<ol style="list-style-type: none"> 1. BioFire Respiratory Panel 2.1 (RP2.1) is a United States Food and Drug Administration (FDA) authorized, multiplexed nucleic acid test for the detection and identification of various respiratory viral and bacterial nucleic acid targets <ol style="list-style-type: none"> a. An <i>in vitro</i> diagnostic test for the detection of Adenovirus in the respiratory tract 2. BioFire Gastrointestinal (GI) Panel is an FDA authorized, multiplexed nucleic acid test for the detection and identification of multiple gastrointestinal viral, parasitic, and bacterial nucleic acid targets <ol style="list-style-type: none"> a. An <i>in vitro</i> diagnostic test for the detection of Adenovirus F 40/41 in the gastrointestinal tract
U.S. Centers for Disease Control and Prevention (CDC)	<p>CDC will perform any of the following tests for Adenovirus if requested and if the patient specimen requirements are met:</p> <ol style="list-style-type: none"> 1. Molecular detection (e.g. PCR) 2. Partial or full genome sequencing 3. Antigen detection 4. Virus isolation 5. Virus neutralization with type-specific antisera
Criteria for Testing	<p>Testing for Adenovirus should not be performed unless the patient meets clinical signs and/or symptoms compatible with Adenovirus infection.</p> <p>Symptoms for Adenovirus include cold or flu-like symptoms, fever, sore throat, acute bronchitis, pneumonia, conjunctivitis, and acute gastroenteritis. Other, less common symptoms include bladder inflammation or infection and neurological disease.</p>

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<p>Specimen Requirements</p>	<p>GPHL requires Nasopharyngeal swab (NPS), Stool in Cary Blair Media, or blood specimens collected within a week of symptom onset with a GPHL Specimen Submission Form (GPHL DPHSS_FRM_05/18/16) for each specimen.</p>
<p>Specimen Processing, Shipping, and Handling</p>	<p>If patient specimen meets the requirements for further testing off-island, Guam Public Health Laboratory (GPHL) will process, ship, and handle as follows:</p> <ul style="list-style-type: none"> • Contact the Division of Viral Hepatitis CDC in advance to confirm patient specimen requirements are met and request further testing (Email CDC at ncirddvdgast@cdc.gov) • Frozen samples at -20°C; • Arrangements to ship the samples overnight to CDC, frozen on dry ice; • Completed hard copies of GPHL Specimen Forms and the CDC Specimen Submission Forms (CDC Form 50.34) for each specimen submitted. • If submitting ten (10) or more patient specimens, providing an electronic line listing by email, using the following headers in this order: Patient ID Number, Date of Birth, Onset Date, Fatal Y/N (Yes or No), Specimen ID Number, Specimen Collected Date, and Specimen Type.
<p>Specimen Collection</p>	<p>Collect the appropriate amount of at least one of the following specimen types:</p> <ul style="list-style-type: none"> • Nasopharyngeal Swab (NPS) in Viral Transport Media (VTM) <ul style="list-style-type: none"> • Minimum sample volume: 0.3 mL (300 uL) • Stool in Cary Blair transport media <ul style="list-style-type: none"> • Minimum sample volume: 0.2 mL (200 uL) • Serum <ul style="list-style-type: none"> • Minimum sample volume: 0.5 mL (500 uL)
<p>Specimen Submission</p>	<ul style="list-style-type: none"> • Submitting clinics will ensure that when transporting human blood, stool, or nasopharyngeal swab, all applicable regulations for transport of potentially infectious biological specimens are met with proper documentation.
<p>Rejection Criteria</p>	<ul style="list-style-type: none"> • Specimen is not collected in a proper container or special handling instruction is not followed; • Specimen quantity is insufficient to perform the test; • Specimen received in a container that is leaking; • Frozen specimen is not received at -20°C or packed in dry ice; • Frozen specimen not shipped in dry ice; • Unlabeled specimens; • Illegible/ incomplete labeling/documentation.
<p>Submission Form</p>	<ul style="list-style-type: none"> • Each specimen submitted to GPHL must be labeled with the assigned patient identification number, type of specimen, date and time of collection, submitter, and other applicable and pertinent information. • Submission forms that are not consistent with the specimen submitted will be rejected and requesting facility will be asked to re-submit.

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	<ul style="list-style-type: none"> • Submission forms must not be in direct contact with the specimen(s). • Fill out required form(s) COMPLETELY. Incomplete forms will be rejected.
Result Notification	Laboratory reports will be forwarded to the submitting healthcare facility and/or provider, DPHSS Territorial Epidemiologist (TE), Chief Public Health Officer (CPHO) and/or designees.
Laboratory Contact Information	<p>Alan Mallari, Microbiologist III, GPHL Phone: (671) 300-9080 Alan.mallari@dphss.guam.gov</p> <p>Lea Nisay, Microbiologist I, GPHL (Alternate) Phone: (671) 300-9088 Lea.nisay@dphss.guam.gov</p> <p>Anne Marie Santos, Laboratory Administrator, GPHL Phone: (671) 300-9082 Annemarie.santos@dphss.guam.gov</p>

Table - Specimens to Collect and Transport for Testing Suspect Adenovirus Cases

Specimen Type	Minimum Amount	Collection	Storage	Transport
Nasopharyngeal Swab (NPS) in Viral Transport Media (VTM)	0.3 mL	Collect in Viral Transport Medium (VTM) required.	Refrigerate at 2-8°C up to 72 hours from the time of specimen collection. Freeze at -20°C, if more than 72 hours from the time of specimen collection.	Transport at 2-8°C. Ship on dry ice.
Stool in Cary Blair transport media	0.2 mL	Collect in Cary Blair transport medium required. Please do not send a rectal swab.	Refrigerate at 2-8°C up to 72 hours from the time of specimen collection. Freeze at -20°C, if more than 72 hours from the time of specimen collection.	Transport at 2-8°C. Ship on dry ice.
Serum	0.5 mL	Collect in SST/Red top tube, spun, separated and aliquoted in sterile transport dry tube.	Refrigerate at 2-8°C up to 72 hours from the time of specimen collection. Freeze at -20°C, if more than 72 hours from the time of specimen collection.	Transport at 2-8°C. Ship on dry ice.

References:

1. BioFire Respiratory Panel 2.1 (RP2.1) SOP
2. BioFire Gastrointestinal (GI) Panel SOP
3. Adenovirus | CDC: <https://www.cdc.gov/adenovirus/index.html>